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ABSTRACT

Examples of environmental problems in Rhode Island are specified in this document. Listed are needs of 12 identified target groups (agriculture, business and industry, citizen organizations, elementary and secondary schools, government, higher education, individual citizens, labor, mass communications, professional and trade organizations, religious organizations, and youth organizations). Program goals and constraints are identified. A series of recommendations is set forth, along with strategies for implementation. Appendixes include the survey instrument used to assess the needs of target groups; lists and descriptions of available resources are provided. (DT)

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ED 092399

A PROPOSED PLAN

for

ENVIRONMENTAL EDUCATION

in

RHODE ISLAND

May 1, 1974

SE 017 973

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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
BOARD OF REGENTS FOR EDUCATION
Room 200, 199 Promenade Street, Providence, Rhode Island 02908

November 14, 1973

Dr. Richard A. Green, President
Ecology Action for Rhode Island
281 Thayer Street
Providence, Rhode Island 02906

Dear Dr. Green:

At the November 13, 1973 meeting of the Elementary/Secondary Subcommittee of the Board of Regents, your communications of October 15 and October 29 regarding environmental education were considered. In addition the entire Board of Regents has reviewed both your communications for its information.

It was the consensus of the subcommittee that I apprise you of its thinking in the area of environmental education and the planning for such education.

As you probably know, within the Department of Education's Division of Development and Operations there are certain environmental education activities underway (see attached fact sheet prepared by staff of that Division).

However, your most recent letter (October 29, 1973) focuses on Ecology Action's planning program for environmental education and your organization's intentions "to present your recommendations to the appropriate officials in the Department of Education to be used in the development of a master plan for the state."

Your efforts in this area are both welcomed and encouraged. We look forward to receiving your findings and have been assured by the Department's Office of Research, Master Planning and Evaluation that such information will be most useful in establishing policy recommendations for this portion of the master plan that will be forwarded to the Board of Regents for its consideration.

Thank you for informing us of your efforts in the area of environmental education.

Sincerely,

Henry J. Nardone

Henry J. Nardone, Chairman
Elementary/Secondary Subcommittee
Board of Regents for Education

HJN(CON):rd
cc: Dr. Fred G. Burke
Enclosure

FACT SHEET ON ENVIRONMENTAL EDUCATION

1. Rhode Island is one of nine states in a consortium known as the Northeast Environmental Education Development Project (NEED). This department has designated a delegate to NEED for Rhode Island.

2. The Department, in cooperation with URI and with funding from NEED, held a three-day conference at W. Alton Jones campus last year. Several representatives from each state in NEED were in attendance. Among the objectives of the conference were the recognition of concerned people in our state and region, communication between these people and discussion about environmental educational needs.

3. NEED has joined the National Alliance for Environmental Education (a nationwide confederation of agencies concerned with Environmental Education) and Rhode Island's NEED representative serves as that group's delegate to the National Alliance's Board.

4. This department is conducting a project with funds from the Office of Environmental Education, USOE, entitled "Narragansett Bay Heritage". It involved training and equipping teams from thirteen communities. (see attachment)

5. This department has designated an individual to serve as liaison with the various environmental interest groups.

6. The state Environmental Education contact person for the ERIC Information Analyses Center for Science, Mathematics and Environmental Education is from this department.

7. This department has funded a variety of Environmental Education programs/activities. These range from min -grants to career education to Title III grants.

NARRAGANSETT BAY HERITAGE

What is it?

A project conducted by the Rhode Island Department of Education as a result of a grant by the Office of Environmental Education, USOE.

Why is it in existence?

Hopefully to alleviate some of the threat to Narragansett Bay. We believe that we could move toward accomplishing this by addressing ourselves to three major problems concerning the Bay:

- a lack of environmental base-line data and continuous monitoring within most communities upon which sound public policy could be based;
- a lack of a sense of awareness of the Bay's role in Rhode Island's heritage and the Bay's present ecological condition, both of which might aid in formulating sound future decisions;
- a lack of knowledge as to the methodology of community action/involvement concerning an environmental problem.

We also believe that the interdisciplinary process of addressing ourselves to these problems will aid in the development of an environmental ethic.

How will it do this?

The Department of Education will conduct a 3 1/2 day training session in process-oriented environmental education utilizing a training team from the United States Forest Service and a Forest Service trained Rhode Island team. They will train teams from a dozen or so local educational agencies (LEA's). These teams will then return to their appropriate school and train a seventh grade class so that the class can conduct the project. If desired, that team could be utilized by their LEA for further training.

What is the composition of these teams?

The team membership reveals one of the more innovative aspects of this project. The team would consist of a seventh grade social science teacher, a seventh grade science teacher, two students (one a seventh grader) and a parent. We would ask that the two teachers and at least one of the students be from the participating class and the parent not be the parent of one of the involved students. Hopefully, we could recruit a parent with a specific resource, e.g. an artist, an elected official.

Why the seventh grade?

The seventh grade was chosen because it is there most communities include Rhode Island history, the fragmentation of the disciplines accelerates, and process is beaten further into the background by subject matter.

What are the objectives of the project?

The objectives can be broken down into two areas - the objectives of the initial training teams and their classmates and the objectives of the project itself. By providing the training in basic applicable skills and investigatory procedures, we could expect that both the initial training teams and classes they will deal with upon their return be trained to:

- gather, record, edit, and transmit the environmental base-line data;
- increase their environmental education literacy by understanding the relationship between the disciplines as well as the inter-relationship of natural and human resources;
- gain proficiency in problem-solving skills;
- gain proficiency in application and projection skills;
- gain an understanding of the heritage of Narragansett Bay;
- gain expertise in interpersonal and intergroup relations as a result of the cross-age training teams and group involvement;
- serve as a nucleus for potential community action;
- understand the basics of changing the political system;
- understand that more than one person's or one group's values come into play in any environmental problem.

The broader project objectives would be met following the team's return to their school and their training the participating class(es).

The class would:

- collect base-line environmental data by monitoring the Bay and its estuaries utilizing the following tests: dissolved oxygen, detergent, bacteria, oil residue, alkali (total acid, total base, pH), carbon dioxide, temperature and zoological indicators. Such data would be forwarded to a repository/transmitter as well as to any other group or person that the class feels should receive it.
- develop activities, under the facilitation of the team, which would utilize the primary source materials included as part of the project and which would utilize the polaroid camera also included. Examples of these activities, which would supplement most curricular areas, could training in map skills, zoning studies, camera usage for communication and the arts, land use survey, simulation games, etc. The possibilities are exciting and limitless.

. While the monitoring would remain standardized, all other aspects of the program would be adaptable to the specific school/class and community. The teams will be provided with all the necessary equipment and materials.

We would further suggest two other objectives for the project. The classes might want to do a land-use survey of the community or coastal areas and compare it to existing land-use maps. Each participating class could be asked to set up a case study showing the relation of the project's operation and a community problem. This case study would serve as the basis for some type of workshop where the class would demonstrate to the parents or the P. T. A. or the public just what they have done and are doing.

Ecology Action For Rhode Island

the people "... shall be secure in their rights to the use and enjoyment of the natural resources of the State with due regard for the preservation of their values ..." Amendment, Rhode Island Constitution, proposed by the legislature, S 274 1969.

October 29, 1973

Mr. Henry J. Nardone, Chairman
Subcommittee on Elementary/Secondary Education
Board of Regents
Hayes Street
Providence, Rhode Island

Dear Mr. Nardone:

Thank you for considering our request that the area of environmental education be included as a priority curricular area by the Elementary/Secondary Subcommittee of the Board of Regents.

I would also like to explain the role of Ecology Action for Rhode Island in the planning for environmental education in the state. Ecology Action has recently received funding from the NEED consortium for such planning and intends to pursue the following goals:

1) Assess the current status of environmental education in Rhode Island;

2) Review the environmental education efforts of other states, including the development of any state master plans;

3) Determine the environmental education interest groups, sites, and resource persons in the state;

4) Draw up a list of recommendations regarding environmental education in Rhode Island and submit them to the appropriate officials in the State Department of Education, to be used in the development of a master plan for the state.

It is hoped that environmental education in Rhode Island will receive a high priority by the Board of Regents.

Thank you for your consideration in this matter.

Sincerely yours,

Richard A. Green

Dr. Richard A. Green, President
Ecology Action for Rhode Island

RAG:sgg

281 THAYER STREET · PROVIDENCE, R.I. 02906 · TELEPHONE 274 9429

FOREWORD

In the fall of 1973, Ecology Action for Rhode Island, a non-profit, tax-exempt citizens' organization, established the Steering Committee and invited 40 citizens to serve as an Advisory Committee to study the status of Environmental Education efforts within the State of Rhode Island, the needs of the citizens in the area of Environmental Education, and to make recommendations to the Board of Regents and the State Department of Education for implementation of an Environmental Education program.

This study was made possible by a grant from the Northeast Environmental Education Development consortium, and by the cooperation and assistance of many individuals and institutions throughout the state. Gratitude is expressed to the representatives of the State Department of Education, who provided insight and assistance during the course of this project. Particular appreciation is extended to the Bureau of Social and Educational Services at Rhode Island College for providing office facilities for the Coordinator of the project and access to the resources of the Bureau and of the College.

The Proposed Plan for Environmental Education in Rhode Island is the result of that study and is being submitted to the Board of Regents for consideration and implementation.

I. SUMMARY

One of the dominant qualities of contemporary life is the complexity inherent in a highly industrialized and increasingly service-oriented, culturally pluralistic society. One of the negative by-products of this complexity is our ignorance of the inter-relationships among all aspects of society and our own dependence on the natural world. Education must provide the tools for integrating the fragments of knowledge we have amassed if an informed and responsible citizenry is to act decisively in improving the quality of life.

While past educational practices have emphasized the development of necessary specialized skills, a response to the unique problems associated with contemporary life demands an understanding of the inter-relatedness of Man to the elements of his environment, both man-made and natural. An increased consciousness of the social, philosophical, economic and political aspects of environmental decision-making processes is of prime importance in order to develop in the citizenry the capacity to affect solutions to contemporary problems.

Viewed in this context, Environmental Education is an educational process which:

- is interdisciplinary and multidisciplinary in scope;
- is process oriented and seeks to involve the learner directly in his investigations;
- provides the skills necessary to affect involvement in seeking solutions to real and definable problems;

- o emphasizes the necessity of making rational trade-offs in solving any complex problem;
- o provides a broad basis of understanding of contemporary environmental issues;
- o incorporates the perceptions of both specialists and generalists, scientists and humanists, in issue-oriented environmental investigations; and
- o motivates the learner to adopt a life-style consistent with environmental quality.

Environmental Education can serve as an integrative tool, providing the framework in which attitudes and values conducive to maintaining and improving the quality of modern life are developed. For example, a land ethic -- the understanding of Man's dependence on the natural world and respect for the fragile coexistence between Man and Nature -- is vital if continued technological development is to enhance Man's existence.

As Environmental Education attempts to integrate the fragments of our knowledge to develop an understanding of the environment, in the broadest meaning of that word, it also attempts to elicit direct and active participation of all segments of the population. For the purposes of this Proposed Plan, the following twelve Target Groups have been identified:

Agriculture	Individual citizens
Business and Industry	Labor
Citizen organizations	Mass Communications
Elementary and Secondary schools	Professional and Trade organizations
Government	Religious organizations
Higher education	Youth organizations

The Target Groups represent every individual in at least one area of concern and have been identified for purposes of better refining the needs and recommendations of this Proposed Plan.

NEEDS:

The Environmental Education Needs section concentrates on general categories affecting the entire population of the state as identified by a representative sampling of individuals serving as an Advisory Committee. A needs survey was distributed to all schools in the state and to a group of private and public citizen organizations, copies of which can be found in the Appendix.

The Needs section is perhaps the most important part of the Proposed Plan for Environmental Education in that it identifies those areas which the public views as crucial to achieving positive results in an Environmental Education effort. Following are the general needs:

- to define the nature of Education's role in clarifying attitudes and values, in achieving a level of environmental literacy among the citizenry, and in affecting positive environmental change through a concerned and involved public;

- to increase the public's understanding, awareness and respect for the natural, non-technological aspects of the environment;

- to promote public understanding of Man as a separate entity from the natural environment and of the natural environment as a separate entity from Man, as a prelude to effective understanding of the inter-relationships and inter-relatedness of Man and the natural environment;

- to increase public consciousness of the political, economic, social and philosophical aspects of the changing quality of life;

- o to promote public understanding of the effects of technology on society and on nature, and the inherent inter-relationships;
- o to provide the public with knowledge of the permanent and reversible effects of environmental imbalance; and
- o to promote public recognition of the potential crises resulting from human misuse of the natural environment.

GOALS:

The goals of the Proposed Plan for Environmental Education in Rhode Island derive from the broad educational goals for the state as established by the State Department of Education. Following is a brief synopsis of those goals which provide an opportunity for each person to:

- o grow toward self-understanding and to determine personal goals, values and attitudes;
- o advance the dignity of man by living effectively with other individuals, groups and organizations;
- o enrich the community of man through the development of values based on an understanding of various cultures;
- o understand and evaluate economic needs, values and systems in order to contribute to the common good;
- o be able to choose a career suited to his talents and aspirations, and to acquire the competencies and capabilities to pursue that career;
- o enrich life through contemplation and experience in all forms of art;
- o contribute to the benefit of all peoples through the understanding and practice of democratic self-government as it can be applied to the nation, the state of Rhode Island, and local governments; and

- o create a healthier and more beautiful world by understanding the environment and making intelligent use of it.

The goals of the Proposed Plan for Environmental Education in Rhode Island represent an extension of the above educational goals and encourage the citizenry to develop:

- o an awareness, understanding and respect for the environment; and
- o the skills, motivation and action-orientation to affect active involvement in current and anticipated concerns, whether personal or founded in a larger social context.

The broad goals of the Proposed Plan for Environmental Education can be further refined to distinguish between Program Goals and Individual Goals.

PROGRAM GOALS refers to the goals of the Proposed Plan for Environmental Education in Rhode Island, and will:

- o provide for the dissemination of accurate and up-to-date information on contemporary issues, presenting all viewpoints as well as a historical perspective;
- o provide a clearinghouse for information, materials and consultant services on these contemporary issues;
- o provide for coordination of environmental activities throughout the state; and
- o provide the basis for direct personal involvement in learning experiences aimed at studying contemporary issues.

INDIVIDUAL GOALS refers to the goals of formal and non-formal educational processes whereby the individual will demonstrate:

- o a greater than functional level of literacy;
- o a broad understanding of environmental principles and their relationship to society in general;

- o an awareness of historical, social, political, economic and aesthetic considerations;
- o a system of values consistent with maintaining and improving the quality of life; and
- o a personal commitment to a life-style which is conducive to promoting environmental quality.

CONSTRAINTS:

In addition to inadequate or unavailable funding, any Environmental Education program faces many other constraints.

General constraints to implementing a viable Environmental Education program focus on:

- o public misconceptions as to the nature of Environmental Education;
- o opposing viewpoints on the importance of Environmental Education;
- o a lack of understanding or concern about the environment;
- o ignorance of the valuable human resources available for use in an Environmental Education program and failure to utilize their collective expertise because of technical qualifications;
- o a lack of accessible collections of materials on Environmental Education and the difficulty of keeping materials up-to-date; and
- o a primal aversion to change of any kind among some sectors of society.

RECOMMENDATIONS:

The recommendations of the Proposed Plan for Environmental Education can be separated into two categories:

- o recommendations for implementing the program; and
- o recommendations for achieving specific goals in Environmental Education.

The first category refers to Implementation Recommendations and includes:

- o the establishment of Environmental Education as an educational priority for the state;
- o the establishment of a position of Environmental Education Coordinator for the state;
- o the creation of an Advisory Council whose purpose is to advise the Coordinator and to provide direction to the implementation of the Environmental Education program;
- o the establishment of a Clearinghouse for Environmental Education to provide a centralized location for materials and an efficient dissemination of information;
- o the adoption by state agencies and institutions of positions favorable to implementation of the Environmental Education program; and
- o the acceptance by the State Departments of Health and Natural Resources of their share of responsibilities in the development and implementation of the Environmental Education program.

The second category refers to Achievement Recommendations which respond to the needs of the public for an Environmental Education program. Following are the general recommendations of the Advisory Committee:

- o that Environmental Education be incorporated into the state's educational structure consistent with the definitions of Environmental Education found herein;
- o that the general educational goals as established by the State Department of Education be incorporated into the Environmental Education program; and

- that consideration be given to the needs of the identified Target Groups in the Environmental Education program.

STRATEGIES:

Strategies for obtaining approval for the specific recommendations of the Proposed Plan should be differentiated from the strategies employed in actually implementing the Environmental Education program.

Approval and support of the specific recommendations found herein is sought from the Board of Regents and the State Department of Education. Broad public acceptance will be enhanced by that approval and support.

Allocation of funds and the assignment of duties and responsibilities to appropriate personnel are priority considerations for implementing the Proposed Plan. An adequate and stable source of funding must be provided at the outset in order to assure the effectiveness and longevity of the program as well as to institutionalize the components of the program.

In addition to funding, the program must include the mechanism for continuing evaluation and revision, and must be flexible enough to respond to the changing demands of contemporary society. To some extent this flexibility for evaluation must be built into the program, but responsibility also rests with the persons involved in implementing the program.

II. INTRODUCTION

In December, 1973, Ecology Action for Rhode Island received a $1,950 grant from the Northeast Environmental Education Development consortium to study the status of Environmental Education efforts in Rhode Island, the needs of the citizens in the area of Environmental Education, and to make recommendations to the Board of Regents and the State Department of Education for implementation of an Environmental Education program.

Members of Ecology Action, in conversations with representatives of the State Department of Education, other environmental leaders, and members of the academic community, perceived that their collective ideas and the wealth of information about the nature of Environmental Education needed to be incorporated into a single comprehensive plan in order to facilitate implementation of a viable program of Environmental Education throughout the state. Ecology Action hired a Coordinator, established a Steering Committee and formed an Advisory Committee to assist in the planning process. Forty individuals were invited to participate on the Advisory Committee, representing environmental and conservation groups, women's groups, an urban political action group, colleges and universities (students and faculty), public schools (teachers, students and administrators), the business community, the State General Assembly, the State Water Resources Board, the Statewide Planning Division of the Department of Administration, and the State Departments of Education, Health and Natural Resources. A listing of the individuals invited to participate on the Advisory Committee can be found in Appendix D.

RATIONALE:

Clearly, we are at a stage of civilization which demands more and more consciousness: where individuals are increasingly bombarded with an expanding mass of information, and where an understanding of the relationship between assumption and implication becomes vital to problem-solving and decision-making processes.

What is needed is the forethought of careful planning, the consideration of many disciplines in the development of that planning, and the cooperation among State and private agencies. It is clear that the State has the responsibility to invest resources in developing a higher level of environmental literacy in the residents of Rhode Island, to more fully monitor existing environmental conditions and investigate alternative uses of its natural resources. It is also clear that our participatory form of government demands the active involvement of our citizens, and that this involvement depends on the effectiveness of the educational process.

There exists a need to know the effects of technology on society and on the natural world; a need to adequately ascertain the nature of permanent and reversible effects of environmental imbalance; a need to be more fully conscious of the political, physical, economic, social and philosophical aspects of decision-making in the changing quality of life; a need to recognize the potential crises resulting from human misuse of the natural environment; and a need for education to assume a role in clarifying attitudes and values, in achieving a level of environmental literacy among the citizenry, and in affecting positive environmental change through a concerned and involved public.

Education must better prepare us to live in the complex, ever-changing world we have created, to respond with deliberation and personal commitment to the challenges of contemporary life. It must provide the basis for interaction on all levels, for combining the fragments of our learning into a cohesive and useful body of knowledge, teaching us how to use this integrated knowledge to consciously make decisions in affecting solutions to contemporary problems.

DEFINITION OF ENVIRONMENTAL EDUCATION:

> "Environmental Education is the educational process dealing with man's relationship with his natural and man-made surroundings, and includes the relation of population, pollution, resource allocation and depletion, conservation, transportation, technology, and urban and rural planning to the total human environment." (Environmental Education Act, Public Law 91-516, 91st Congress, 1970.)

Environmental Education aids in developing an understanding of our relationship to the natural and man-made world, fostering a system of values consistent with the improvement and maintenance of our environment while providing us with the personal motivation to directly involve ourselves in actions designed to assure a quality of life. It engenders a respect for the democratic process and emphasizes respect for the unique worth of the individual. It is a way of looking at life, at the inter-related and inter-dependent systems upon which the individual has an effect and which in turn vitally affect him. It operates within the real world, recognizing the importance of aesthetic values. It is a life-long process producing a continued growth of environmental literacy among the populace. Environmental

Education increases our understanding of environmental problems, encouraging us to seek solutions based upon an analysis of all available information and alternatives, and enabling us to become more competent in decision-making and problem-solving processes.

III. EXAMPLES OF ENVIRONMENTAL PROBLEMS IN RHODE ISLAND

Because Environmental Education has been defined as interdisciplinary and multidisciplinary in scope and as directing the individual to become actively involved in decision-making and problem-solving processes, the citizen will be prepared to effectively deal with the following types of environmental problems, as identified by the Advisory Committee and through the statewide survey of citizen organizations.

WATER PROBLEMS:

- o inadequate sewage treatment facilities;
- o incomplete sewage service throughout the state;
- o inadequate planning to correlate water supply and sewage treatment;
- o difficulties associated with monitoring and improving water quality;
- o inadequate planning for the use of Narragansett Bay; and
- o lack of official coordination between salt and fresh water wetlands use and preservation.

LAND USE PROBLEMS:

- o lack of implementation of a comprehensive land use policy for the state which emphasizes ecological land use principles and is based on growth projections for population, transportation, and energy needs trends;
- o improper disposal of solid waste by municipalities and private concerns;
- o rapid depletion of farmlands due to the prevailing local property tax structures which are based on maximum utilization of land;

- lack of state policy regarding urban planning and land use based on ecological principles; and
- lack of local control over strip mining and gravel pit operations.

AIR PROBLEMS:

- difficulties associated with monitoring and improving air quality.

TRANSPORTATION PROBLEMS:

- inadequate system of mass transportation throughout the state;
- past emphasis on highway construction rather than on improvements in mass transit and repair of existing highways; and
- lack of cooperation between agencies responsible for planning and development of transportation systems.

ENERGY UTILIZATION PROBLEMS:

- lack of information about long term statewide energy needs;
- lack of a state energy policy; and
- lack of coordination on regional and statewide levels to implement an energy policy.

ENVIRONMENTAL LAW PROBLEMS:

- lack of environmental lawyers for the state agencies and departments charged with enforcing environmental laws;
- unavailability of information in a form citizens can understand about environmental laws;
- lack of mechanism to provide for citizen in-put into legal procedures; and
- lack of legal guidelines for pollution abatement and enforcement.

IV. NEEDS

Environmental Education Needs actually represent two categories:

- Target Group Needs: the needs of the identified Target Groups in the area of Environmental Education; and
- Environmental Education Program Needs: the needs of the Environmental Education program as it attempts to elicit positive change in the State's educational structure.

Appendices A and B contain copies and tabulated results of needs surveys distributed to schools and citizen organizations. Those surveys relate to two of the Target Groups: Citizen organizations, and Elementary and Secondary schools. The first section of this chapter also briefly identifies the needs of the other Target Groups:

Agriculture	Individual citizens
Business and Industry	Labor
Citizen organizations	Mass Communications
Elementary and Secondary schools	Professional and Trade organizations
Government	Religious organizations
Higher Education	Youth organizations

The second section of this chapter deals with the Environmental Education program needs.

TARGET GROUP NEEDS:

Agriculture:

- environmental studies at the University of Rhode Island College of Resource Development;
- greater public visibility of the U.S. Department of Agriculture Extension Service; and
- more effective leadership within the public and private agencies dealing with agriculture.

Business and Industry:

- o improved communication between business and industry leaders and environmental, consumer advocate and other interest groups; and
- o greater public visibility of environmental efforts.

Citizen organizations:

- o access to technical assistance from public and private agencies;
- o greater public visibility of their environmental efforts; and
- o public support of their environmental efforts.

Elementary and Secondary schools:

- o ready availability of environmental information and supporting materials;
- o expansion and utilization of environmental study areas;
- o assistance of individuals with expertise in various environmental areas;
- o public support for, and greater visibility of environmental efforts;
- o open communication among members of various academic disciplines about environmental efforts; and
- o ready availability of in-service training in Environmental Education.

Government:

- o technical and legal assistance in carrying out environmental responsibilities and in creating environmental legislation;
- o greater public visibility of positive environmental efforts; and
- o more trained personnel to aid in carrying out environmental responsibilities.

Higher education:

- ready availability of environmental information and supporting materials;
- mechanism to assist in developing Environmental Education curricula;
- expansion and utilization of environmental study areas;
- interdisciplinary communication about environmental efforts; and
- public support for, and greater visibility of environmental efforts.

Individual citizens:

- ready availability of environmental information;
- assistance and education about how to become involved in problem-solving activities; and
- institutional and agency support in attempts to adopt an environmental life-style.

Labor:

- ready availability of environmental information and information correlating labor's needs with environmental protection;
- technical assistance aimed at improving conditions in the workers' environment; and
- public support of attempts to improve working conditions.

Mass communications:

- public support of Environmental Education efforts;
- technical assistance in Environmental Education efforts; and
- increased communication with various segments of society in order to present all viewpoints on environmental matters.

Professional and Trade organizations:

- o greater public visibility of environmental efforts;
- o technical assistance in environmental areas;
- o public support of environmental efforts; and
- o ready availability of environmental information.

Religious organizations:

- o ready availability of environmental information;
- o open communication about environmental matters;
- o greater public visibility of environmental efforts; and
- o assistance in correlating religious viewpoints with environmental concerns.

Youth organizations:

- o ready availability of environmental information;
- o assistance in directing activities toward environmental preservation and Environmental Education efforts;
- o greater public visibility of environmental efforts; and
- o institutional and agency support in attempts to adopt an environmental life-style.

PROGRAM NEEDS:

Rhode Island's present efforts in Environmental Education are both sporadic and limited by financial and personnel considerations. The overriding need in the state is for a broad-based program of Environmental Education which will permeate all sectors of the society and which will be legitimatized by the public through the financial and man-power support of the educational establishment. It should be emphasized here that the

educational establishment refers to any agency or individual, not only the State Department of Education and the Board of Regents, whose function is to educate, either in a formal or non-formal sense.

An overview of the broad needs have been identified in Chapter I; the following section refines those categories into more specific needs in successfully establishing the Environmental Education program, which should be designed to:

- provide the forethought of careful planning, utilizing the collective experience of diverse groups of individuals involved in planning processes;
- assure those groups and individuals with particular influence over constituencies of the need for implementing the program of Environmental Education;
- provide process-oriented training for those involved in planning, implementing and evaluating the Environmental Education program, both in the realm of formal and non-formal education;
- instill in the population a "land ethic" whereby the understanding of Man's dependence on the natural environment and the respect inherent in such understanding is emphasized;
- provide public access to an increasingly complex collection of information and to provide the means of interpreting that information in the context of environmental decision-making;
- provide the background for qualitative and quantitative evaluation of environmental threats;
- generate a greater public awareness of the physical, biological, social, economic and cultural factors which contribute to an environmental decision;
- create the setting in which an environmental dialogue is able to flourish, and in which an exchange of information becomes routine procedure;
- establish working mechanisms for carrying out the recommendations of the Proposed Plan for Environmental Education;

- provide for more effective utilization of the mass media for communicating information about the environment, and about the Environmental Education program across a broad spectrum of society; and

- assure sources of stable and continued financial support for the Environmental Education program and its activities.

V. GOALS

The primary goal of the Environmental Education program in Rhode Island is to raise the level of environmental awareness among the citizenry, and to provide the skills necessary for action based on that awareness. The development of this awareness and action-orientation can be defined as a growth in environmental literacy. And just as basic literacy improves the individual's ability to communicate and to function in contemporary society, environmental literacy serves to increase the individual's awareness and understanding of the world around him, which in turn allows him to be a more productive member of society.

Goals in Environmental Education represent two categories:

- Program Goals: goals for the Environmental Education program in Rhode Island, which should:
  - provide for the dissemination of accurate and up-to-date information on contemporary issues, presenting all viewpoints as well as a historical perspective;
  - provide a clearinghouse for information, materials and consultant services on these contemporary issues; and
  - provide for coordination of environmental activities throughout the state, and provide the basis for direct personal involvement in learning experiences aimed at studying contemporary issues.
- Individual Goals: the goals of formal and non-formal educational processes whereby the individual should demonstrate:
  - a greater than functional level of literacy;
  - a broad understanding of environmental principles and their relationship to society in general;

- an awareness of historical, social, political, economic and aesthetic considerations;

- a system of values consistent with maintaining and improving the quality of life; and

- a personal commitment to a life-style which is conducive to promoting environmental quality.

Program Goals represent the establishment of mechanisms for achieving success in meeting the perceived needs of the population in Environmental Education, and the incorporation of specific programs into the educational structure. These include mechanisms for:

- o cooperation between the two State teaching institutions in order to better utilize the unique resources of each;

- o articulation across disciplinary lines within schools, of information about environmental activities and materials, and providing for cooperation on environmental projects;

- o cooperation between the State Departments of Education, Natural Resources and Health to utilize the educational television media, for the purpose of creating environmental "specials" related specifically to the state;

- o cooperation among the identified Target Groups for the purpose of sharing resources, facilities, expertise and resource personnel in furthering Environmental Education efforts; and

- o cooperation between the Environmental Education Coordinator for the state and the various representatives of the mass media serving the people of the state.

And programs which entail:

- o a comprehensive plan for utilization of existing environmental study areas in the state for use by all formal educational units;

- o the creation of a marine environmental study facility utilizing and expanding the present URI facilities;

- o provision for the limited use of the Scituate Reservoir for environmental study;
- o the development of urban environmental study facilities for use by all formal educational units;
- o the establishment of Environmental Education as one area of concern for local, non-degree adult education efforts;
- o the establishment of continuing education and training programs in environmental principles for appropriate personnel within the State Departments of Community Affairs, Health, Natural Resources, Transportation, Education, the Statewide Planning Division of the Department of Administration, the Office of the Attorney General, the State Development Council and the Water Resources Board; and to require such training for new personnel;
- o the creation of Environmental Education majors at both State teaching institutions, and the establishment of revised teacher certification requirements which allow double certification in Environmental Education and science or social studies; and
- o the institution of training programs for professional environmentally related careers, with the cooperation of the State University, College and Junior College and State vocational education schools.

Individual Goals represent the desired reaction of the individual to specific environmental problems, stressing a system of values, an action-orientation, and an adopted life-style consistent with values and actions. These include a system of values which:

- o is conducive to maintaining and improving the quality of the environment;
- o provides for the necessity of making rational trade-offs in efforts to improve the quality of the environment;
- o is based on a knowledge of ecological principles;
- o incorporates an understanding of the inter-relatedness of Man and the natural world;

- o is based on a free exchange of information and the establishment of a continuing dialogue among those segments of society with opposing viewpoints relating to environmental quality; and

- o encourages the individual to accept responsibility for his actions.

an action-orientation which:

- o is directed at the individual becoming personally involved in efforts to solve contemporary problems; and

- o motivates the individual to consciously adopt a specific life-style.

and an adopted life-style which:

- o reflects the individual's concern for environmental quality; and

- o sets an example of a life-style which is consistent with environmental concern.

VI. CONSTRAINTS

Apparent constraints for any program include considerations in the financial and political as well as intellectual and prejudicial spheres which serve to hinder the achievement of goals. While some constraints can be anticipated and their resolution built into the framework of the program, other constraints will become apparent only as the program matures.

The major constraint is the current lack of consensus that Environmental Education is a valuable and socially significant endeavor, and one which should receive a priority rating for purposes of funding. This priority rating becomes an issue before implementation of a program because it is imperative that a reasonable attempt be made to assure a stable and adequate source of funding before a program is undertaken. In any new program, few things have less value than unstable funding, with the implication that funds might be withdrawn or withheld at any time.

The second major constraint is the difficulty of adequately defining the nature of Environmental Education in light of the unpredictability of tomorrow's challenges. The rapid growth of scientific knowledge and associated technology, our shifting perceptions of the contemporary world and the increasing personal mobility of modern life, all demand an educational program that possesses a basic adaptability in response to this acceleration of change. The Environmental Education program must be built around the premise of change and be accountable to societal demands as those demands alter. At the same time, Environmental Education must take a formative role as an instrument in shaping aspects of

society to become more accountable to the limitations of the natural environment.

As an outgrowth of this constraint it must be recognized that, while the Environmental Education program must be sensitive to the changes in society, a further constraint to implementing the program is the distrust and fear among some segments of society to any attempt to alter the status quo. This primal aversion to change itself is a hazard encountered by any attempt to institutionalize a new concept or plan, but it is particularly relevant to the Environmental Education program because of the present tendency to abdicate responsibility for making decisions about issues which apparently have no effect on the individual. One of the goals of Environmental Education is to prepare and motivate the individual to make decisions, to help solve contemporary problems and to arrive at a state of tacit acceptance only after informed deliberation.

Further constraints are a lack of provision within the program for continual evaluation and for identifying indices of success and failure. Because many difficulties arise only when a program reaches the operational level, it is imperative that the program allow for resolution of these difficulties by providing for repeated evaluation.

Because of the interdisciplinary nature of Environmental Education, and because of the specialized nature of knowledge in our society, it becomes increasingly difficult--and unwise--to continue to discuss major dimensions of thought in isolation from each other. Cooperation and articulation of common goals become not only expedient, but necessary. Presently, there is little effort to correlate the studies and actions of agencies whose responsibilities are often complementary. Within public education little or no attention is given to

incorporating the knowledge gained in one area with the study of another area, although the areas may lend themselves to such cooperation. Further, the individual often fails to recognize the relation of his own specialized area of knowledge--gained through training and experience--to the specialized thought of his neighbor, although the fabric of society is based on just such interwoven fragments of thought.

Finally, the demands of modern society place a major constraint on any new attempt in the area of public education, especially when such an effort stresses response and action on the part of the individual. The diverse aspects of contemporary life--its contradictions and shifting sanctions, its appeals to mass attention and mass consciousness, its hourly additions to an already bewildering array of technological discoveries and the constant threat to established belief attendant on those discoveries--all subject the individual to unimaginable pressures. Coupled with those pressures is the demand by Environmental Education that the individual accept the responsibility for his own actions, actions which may determine the quality of life enjoyed by future generations. Environmental Education is concerned with intellectual training, with preparing the individual to mediate thought with action, with developing a literacy consonant with the demands of modern life.

Factors which may have an adverse effect on the Proposed Plan for Environmental Education can be summarized as follows:

- o the ordering of priorities for funding which may preclude adoption of the Environmental Education program;
- o the difficulty in predicting tomorrow's challenges, and societal demands, in order to effectively meet those challenges through an educational program;

- o the aversion among some segments of society to any attempts to promote change;
- o the tendency to view a study as conclusive, rather than as a first step in a continuing process of evaluation;
- o the difficulty of making established bureaucracies accountable to changing demands for mutual cooperation and articulation; and
- o the nature of contemporary society, which demands an increased individual literacy and a broader consciousness of the relationship between assumption and implication, and yet fosters institutions which engender a tendency toward passivity and acquiescence.

Although not directly addressed, following are three additional factors which may have an adverse effect on the Proposed Plan for Environmental Education:

- o the attempt to identify "scapegoats" in efforts to simplify the causes of complex issues;
- o the common public misconceptions about the nature of Environmental Education and the need for environmental protection; and
- o the ignorance of and lack of supporting mechanisms for effective utilization of human resources which could be invaluable to the Environmental Education program.

VII. RECOMMENDATIONS

Recommendations for the Environmental Education program can be categorized as follows:

- o implementation directed: those recommendations which relate specifically to the means of operating the Environmental Education program; and
- o achievement directed: those recommendations which relate specifically to the goals of the Environmental Education program and to the learning process.

The primary recommendation of the Proposed Plan for Environmental Education relates to the importance of accepting responsibility--by those individuals and agencies either directly or indirectly involved in the educational process -- for aiding the individual to clarify his own attitudes and values. If we continue to ignore our responsibilities--to take the course of uninformed acquiescence in favor of action--we will increasingly be unable to respond to today's demands and tomorrow's challenges.

Based on the perceived needs, goals and taking into consideration the anticipated constraints for the Environmental Education program, the following recommendations are set forth.

IMPLEMENTATION RECOMMENDATIONS

In order to assure success of the Environmental Education program, it is recommended that:

- o the State Board of Regents establish Environmental Education as a priority area of concern for the state;

- the State Board of Regents create and support adoption by the State General Assembly of enabling legislation to create the positions of Environmental Education Coordinator, Environmental Education Advisory Council, and establish an Environmental Education Clearinghouse; and that such legislation include adequate funding for the above;

- the state agencies and educational institutions adopt positions favorable to implementation of the Environmental Education program; and

- the State Departments of Health and Natural Resources accept their share of responsibilities in the development and implementation of the Environmental Education program.

The mechanisms for operating the Environmental Education program shall include:

- the appointment of a full-time professional to serve as the Environmental Education Coordinator for the State of Rhode Island, who shall be responsible to the Commissioner of Education, and whose duties shall include:

  1. coordinating Environmental Education activities;

  2. acting as liaison with state and private agencies;

  3. aiding in the establishment of the mechanisms and programs described in Chapter V in achieving the goals of the Environmental Education program;

  4. serving as a source of information about activities and programs for citizens, agencies and the media;

  5. developing further strategies for implementing the Proposed Plan and acting as a moving force in assuring implementation of the plan;

  6. investigating additional and supplementary sources of funding; and

  7. serving as the Chairman of the Environmental Education Advisory Council.

- the appointment by the Board of Regents of a 13-member Environmental Education Advisory Council for the State of Rhode Island. Members of the Advisory Council shall serve without compensation, and an attempt shall be made to select members on the basis of Target Group representation and geographical distribution. The previous two qualifications shall be used as guidelines to enhance membership on the Council, and should not supercede appointments according to environmental/educational interest and expertise. The Council's primary function is to provide additional direction to Environmental Education efforts in the state, and to advise the Coordinator on a regular basis.

- the establishment of a Clearinghouse for Environmental Education at a centralized location to provide for dissemination of information and to house Environmental Education materials and resources, which shall be available to any citizen. The Clearinghouse shall be operated under the jurisdiction of the Coordinator.

ACHIEVEMENT RECOMMENDATIONS

Achievement Recommendations are directed at the needs of the public and attempt to define ways of assuring individual participation in, and benefit from, the Environmental Education program. This section has been divided into three categories of recommendations:

- the incorporation of Environmental Education as defined herein;

- the incorporation of general educational goals as established by the State Department of Education; and

- the incorporation of the considered needs of the Target Groups.

Environmental Education in Rhode Island shall be viewed as:

- based on the achievement of a greater than functional level of literacy;

- interdisciplinary and multidisciplinary in scope;

- process oriented and involving the individual directly in his learning experiences;
- involving the utilization of problem-solving techniques in emphasizing decision making;
- promoting understanding of Man as a separate entity from the natural environment and the natural environment as a separate entity from Man, as a prelude to more complete understanding of the inter-relationships and inter-relatedness of Man and the natural environment;
- providing a background in ecological principles, upon which the individual can build and expand his understanding of the environment, both natural and man-made;
- attempting to increase the individual's awareness of his relationship to the elements of the environment, both natural and man-made;
- contributing a positive basis upon which the individual can develop his own attitudes and values;
- utilizing any available resources, such as environmental study areas, materials, individuals with knowledge and expertise in the area, and the resources of libraries, museums and research centers;
- providing the individual with the tools, understanding and motivation to accept the responsibility for environmental preservation, and encouraging him to adopt a life-style consistent with his understanding; and
- aiding in the establishment of a continuing and free dialogue between all sectors of society, and attempting through this dialogue to reach a common understanding of environmental problem solving.

The educational goals for Rhode Island as established by the State Department of Education shall be incorporated into the Environmental Education program in order to provide an opportunity for the individual to:

- grow toward self-understanding and to determine personal goals, values and attitudes;

- advance the dignity of man by living effectively with other individuals, groups and organizations;
- enrich the community of man through the development of values based on an understanding of various cultures;
- understand and evaluate economic needs, values, and systems in order to contribute to the common good;
- be able to choose a career suited to his talents and aspirations, and to acquire the competencies and capabilities to pursue that career;
- enrich life through contemplation and experience in all forms of art;
- contribute to the benefit of all peoples through the understanding and practice of democratic self-government as it can be applied to the nation, the state of Rhode Island, and local governments; and
- create a healthier and more beautiful world by understanding the environment and making intelligent use of it.

In consideration of the perceived needs of the Target Groups the following achievement recommendations are set forth with the specific Target Group identified for each recommendation:

- to establish within agencies, organizations, institutions and groups a liaison structure which will encourage articulation and cooperation in attempts to reach practical compromise (TARGET: ALL GROUPS);
- to actively encourage citizen participation in environmental planning processes and to publicize the existence and methods of participation in such processes (TARGET: ALL GROUPS);
- to encourage organizations, institutions, agencies and groups to become actively involved in Environmental Education efforts and to include an environmental orientation into their activities (TARGET: ALL GROUPS);
- to establish the framework in which those sectors of society with opposing viewpoints can mediate their differences (TARGET: ALL GROUPS);

- to actively encourage the mass media in the state to become involved in presenting all sides of environmental issues (TARGET: ALL GROUPS);

- to provide for multiple use of land management areas with specific emphasis on reservoirs (TARGET: ALL GROUPS);

- to institute a state financed program of research into ecologically sound agricultural principles utilizing the resources of the state institutions (TARGET: AGRICULTURE, GOVERNMENT, HIGHER EDUCATION);

- to correlate environmental principles with agricultural techniques for the public, utilizing the resources of the U.S. Department of Agriculture, the State Department of Natural Resources Agriculture Division and the University of Rhode Island Cooperative Extension Service (TARGET: AGRICULTURE, GOVERNMENT, HIGHER EDUCATION, INDIVIDUAL CITIZENS);

- to provide in-service training for personnel within the State Departments of Natural Resources, Health, and Education (TARGET: GOVERNMENT);

- to encourage cooperation between the State institutions of higher education and the communities in which they exist in order to provide mutual benefit for purposes of planning and sharing of resources (TARGET: GOVERNMENT, HIGHER EDUCATION);

- to offer Environmental Education as a major concentration at both State teaching institutions and to revise teacher certification requirements to allow for dual certification in Environmental Education and science or social studies (TARGET: GOVERNMENT, HIGHER EDUCATION);

- to develop and disseminate broad guidelines for utilization of school sites in environmental investigations (TARGET: ELEMENTARY & SECONDARY SCHOOLS, HIGHER EDUCATION);

- to encourage utilization of existing environmental study areas, such as the W. Alton Jones campus of the University of Rhode Island and the Snake Den area of Johnston (TARGET: ELEMENTARY & SECONDARY SCHOOLS, HIGHER EDUCATION);

- to develop at least one marine environmental study facility utilizing and expanding the present URI facilities (TARGET: ELEMENTARY & SECONDARY SCHOOLS, HIGHER EDUCATION);

- to develop several urban environmental study areas and to encourage their use by rural and suburban school systems as well as urban school systems and institutions of higher education (TARGET: ELEMENTARY & SECONDARY SCHOOLS, HIGHER EDUCATION);

- to mobilize the in-service and pre-service training capabilities of the Rhode Island Teachers' Center, the University of Rhode Island and Rhode Island College (TARGET: HIGHER EDUCATION);

- to utilize the unique resources available at the State institutions of higher education in training qualified personnel to respond to career opportunities in environmental areas (TARGET: BUSINESS & INDUSTRY, GOVERNMENT, HIGHER EDUCATION, LABOR, PROFESSIONAL & TRADE ORGANIZATIONS); and

- to specifically encourage religious organizations to correlate their principles with Environmental Education and with environmental principles when the two are not inconsistent (TARGET: INDIVIDUAL CITIZENS, RELIGIOUS ORGANIZATIONS).

VIII. STRATEGIES

Two categories exist which relate to the strategies involved in the Environmental Education program:

- o approval strategies: the strategies employed in gaining wide public approval for the recommendations of the Proposed Plan; and
- o implementation strategies: the strategies employed in actually implementing the program in Environmental Education.

During the preparation of the Proposed Plan, public approval has been sought through the Advisory Committee and outside evaluators. The aims of the Proposed Plan were welcomed by the Board of Regents and representatives of the State Department of Education have been directly involved since its inception. Following are the recommended Approval Strategies.

APPROVAL STRATEGIES:

In order to assure public approval of the Environmental Education program, the following actions should be undertaken:

- o the Board of Regents sponsor public seminars to inform the public of the nature of the Proposed Plan, soliciting feedback from the participants;
- o representatives of the media be invited to meet with members of the Board of Regents for the purpose of explaining the Proposed Plan and enlisting media support in efforts to inform the public of its contents;
- o the Board of Regents contact citizen organizations in environmental/educational areas in order to obtain their direct and public support for the Proposed Plan;

- o citizen organizations in environmental/educational areas be encouraged to submit recommendations to the Board of Regents for the purpose of selecting membership on the Environmental Education Advisory Council; and

- o the Proposed Plan be distributed to local and state governing officials in order to solicit suggestions and support.

IMPLEMENTATION STRATEGIES:

The Proposed Plan provides initial financial support for a four year period. It is expected that funding for the Environmental Education program will automatically be included in the State Budget at that time.

Following are the projected activities for all components of the Environmental Education program over the initial four-year period.

YEAR 1

- o the State Board of Regents will create and support adoption of enabling legislation by the General Assembly. The legislation will create the Office of the Environmental Education Coordinator, establish the Environmental Education Advisory Council and the Environmental Education Clearinghouse, and will assign funding consistent with the Proposed Budget;

- o the Commissioner of Education will create a Search Committee which will provide the Commissioner with recommended candidates for the position of Coordinator, and which will follow the procedures of job description, investigation, advertisement and interviews customary to such committees. The Commissioner will make provision to reimburse members of the Search Committee for expenses incurred. The seven-member Search Committee will be composed of two members of the Board of Regents, two representatives of the General Assembly, and three public members whose qualifications will include a demonstrated interest and expertise in educational/environmental areas;

- o the Commissioner of Education will hire the Environmental Education Coordinator and establish the Coordinator's responsibility to the Commissioner;

- the State Board of Regents will appoint the Environmental Education Advisory Council using the following guidelines:

    1. members shall be appointed according to demonstrated interest and expertise in environmental/educational areas;

    2. consideration shall also be given to providing geographical distribution and Target Group representation on the Council;

    3. initially, six members of the 13-member Council shall be appointed for 2-year terms; six members shall be appointed for 3-year terms; thereafter all succeeding appointments shall be for 2-year terms; the Coordinator shall serve as the Chairman of the Council;

    4. no member of the Council shall succeed himself for more than three consecutive terms; and

    5. in the event of a vacancy on the Council, such vacancy shall be filled in like manner as other appointments except that the appointment shall be for the remainder of the term of the former member of the Council;

- the Coordinator and the Council will hire one full-time professional Assistant to the Coordinator and also engage the services of a full-time secretary; and

- the Commissioner of Education, in consultation with the Board of Regents and the Coordinator, will establish a location for office facilities and will establish fiscal management and responsibility.

YEAR 2

- wide public dissemination of the Proposed Plan will be undertaken. Workshops and conferences will be held and the availability of supplementary funds for such activities will be explored. Media resources will be utilized. Program personnel will initiate contact with representatives of the Target Groups to offer presentation of the Plan at organizational meetings and will make themselves available to any other interested groups. Citizen participation will be encouraged at all times;

- o resources will be identified to supplement the listing in Appendix C. The compilation of resources will be disseminated to educational institutions, libraries, organizations and the media, and will be incorporated into personnel presentations as described above;

- o additional strategies for implementing the Plan will be designed and instituted;

- o the Clearinghouse will be established. Materials and publications will be identified and purchased. Suggestions for purchases will be solicited from representatives of the Target Groups, from libraries and from existing resource material centers. A listing of the materials and publications available at the Clearinghouse will be prepared and made widely available to the public, and will be kept up to date as new materials are purchased;

- o program personnel will initiate contact with agencies, organizations, educational institutions and the media to provide for continuing exchange of information. A comprehensive mailing list will be compiled and contact will be sought on a regular basis;

- o program evaluation will be designed to provide continuing reassessment of the effectiveness of the program. Independent evaluation will be requested from qualified individuals to supplement evaluation by program personnel, and revision of the program will be instituted as necessary; and

- o workshops, conferences, in-service and pre-service teacher training and community education activities will be designed and field-tested.

YEAR 3

- o field-testing of workshops and educational activities will continue and be expanded. Program personnel will solicit suggestions from activity-participants and a wider variety of activities will be included in the field-testing process;

- o the liaison structure between program personnel and agencies, organizations, educational institutions and the media will be reviewed and revised as necessary. Additional liaison will be encouraged between representatives of the Target Groups and program personnel;

- o curricular guidelines will be devised, based on consultations with environmental/educational resource persons. The guidelines will be disseminated using the techniques employed in Year 2 activities;

- o an information retrieval system will be designed to make the materials and holdings of the Clearinghouse readily accessible to the public, and information about the retrieval system disseminated as above; and

- o a continuing program of instructional and training activities will be designed and field-tested and participants encouraged to submit recommendations about the programs.

YEAR 4

- o the process of incorporating on-going in-service and pre-service teacher training and community education activities will be completed and provision included for reassessment and revision;

- o local non-degree adult education programs will be tapped for inclusion in community education activities. Program personnel will provide curricular guidelines and listings of resource personnel to officials conducting the adult education activities, and will be available as instructors as their schedules permit;

- o field-testing of instructional and training activities will continue and be expanded. Additional components of these activities will be designed and incorporated into the program;

- o supplementary sources of funding will be investigated to continue to offer a wide variety of workshops and conferences on a regular basis; applications for such funding will be the responsibility of program personnel; and

- o appointments or re-appointments will be made by the Board of Regents for the six members of the Council whose terms expire at this time.

Responsibility for implementing the recommendations of the Proposed Plan will rest with the Coordinator, whose duties have been outlined in Chapter VII. Additional duties are as follows:

- identifying and engaging the services of consultants when such services are deemed necessary by the Coordinator in cooperation with the Council. Consultants will be hired to aid in implementing the Plan, aiding in research activities of the program personnel, aiding in planning activities, aiding in conducting workshops, conferences or training activities;

- identifying and purchasing relevant and useful materials and publications for use in the Coordinator's office, by the staff of that office and by the Advisory Council;

- approving travel expenses for the Coordinator, his delegated representative or outside resource personnel. Travel will be for the purpose of gathering materials or information, engaging in research activities, or in the process of conducting workshops or conferences;

- providing direction to the Advisory Council by assigning duties and responsibilities to individuals on the Council, by suggesting activities for the Council and by serving as the Chairman of the Council; and

- carrying out the administrative and management functions of the Coordinator's office.

As previously noted, the Coordinator will be provided with one full-time Assistant, whose professional qualifications will be appropriate to the position. The Coordinator will be directly responsible for the activities of the Assistant, who shall operate under the following general guidelines:

- Research and Program Development Activities: to work with the Coordinator and the Advisory Council in designing the components of workshops, conferences, in-service and preservice teacher training and community education modules, and curricular guidelines for public schools, adult education efforts, higher education and vocational training;

- Coordination of Clearinghouse Activities: to investigate materials and resources for acquisition by the Clearinghouse; to work with the Coordinator and the Council in providing for dissemination of information, materials and resources housed at the Clearinghouse; to assist the Coordinator in acting as a liaison with state and private agencies for dissemination of Environmental Education information; to initiate direct contact,

especially with libraries and other resource centers; and to design an information retrieval system for the Clearinghouse.

As noted in Chapter VII, members of the Advisory Council shall serve without compensation, except that provision is hereby made to reimburse members for actual and approved expenses incurred in the performance of their duties. The duties and responsibilities of the Advisory Council are as follows:

- to assist the Coordinator in implementing the recommendations of the Proposed Plan;
- to assist the Coordinator in continuing evaluation and revision of the elements of the Plan;
- to assist in instructional and training efforts, in program development and in research projects;
- to serve in an advisory capacity to the Office of the Coordinator independent of specific requests for advice by the Office of the Coordinator;
- to assist local governments, agencies and educational institutions in their efforts to implement the Plan both by providing information about the Plan and by offering guidance for specific local projects;
- to serve in a support capacity to the Office of the Coordinator, as resource personnel in promotion of the Plan, and as liaison personnel with respect to the Target Groups; and
- to assist local governments, agencies and educational institutions in planning and research efforts in the area of Environmental Education.

IX. APPENDICES A & B: SURVEYS

Following are copies of the survey of educators in Rhode Island, distributed by the State Department of Education to 500 schools, and the survey of citizen organizations, distributed by Ecology Action for Rhode Island to 26 groups. A tabulation of responses is included after each survey form.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF EDUCATION
Hayes Street, Providence, Rhode Island 02908

Fred G. Burke, Commissioner

March 11, 1974

To: Principals - Elementary and Secondary Schools
Subject: Environmental Education Questionnaire

Rhode Island is one of nine states in a consortium known as the Northeast Environmental Education Development project (NEED). Ecology Action for Rhode Island recently received a small grant from NEED for the purposes of determining the status of environmental education within our state and of placing a list of recommendations concerning environmental education before this department.

The Department of Education represents Rhode Island at the NEED meetings and has representatives on the advisory committee put together by Ecology Action for Rhode Island to aid them in their task.

The purpose of the enclosed survey is to determine the scope of environmental education offerings , resources and need in Rhode Island's schools. Your cooperation in this effort will be valuable in any planning concerning environmental education and would be most appreciated.

For the purpose of this survey, we offer this definition of environmental education:

> "Environmental education is the educational process dealing with man's relationship with his natural and man-made surroundings, and includes the relation of population, pollution, resource allocation and depletion, conservation, transportation, technology, and urban and rural planning to the total human environment." (Environmental Education Act, Public Law 91-516, 1970)

Your quick response would also be appreciated. Kindly return the completed survey to:

H. Wells French
Consultant, Program Development
R.I. Department of Education
22 Hayes Street
Providence, R.I. 02908

Sincerely,

Nelson F. Ashline
Associate Commissioner

NFA:dlg
Enclosure

ADVISORY COMMITTEE ON ENVIRONMENTAL EDUCATION FOR ECOLOGY ACTION FOR RHODE ISLAND

SURVEY FORM FOR SCHOOLS

ENVIRONMENTAL EDUCATION RESOURCES AND NEEDS SURVEY FOR RHODE ISLAND SCHOOLS

1. Name of school _____

   Name of person responding _____

   Title _____ Phone _____

2. Does your school(s) have a written policy on and/or definition of environmental education which has been officially adopted by the school committee?

   _____Yes _____No

3. Is environmental education taught in your school(s)?

   _____Yes _____No

   If no, skip to question #4.

   a) is it a separate course? _____Yes _____No
      is it a part of a course? _____Yes _____No

   b) Which of the following capsule statements best represents the intent of your program? (Check only one)

      1. _____Education for and in the out-of-doors
      2. _____Pollution control education
      3. _____Conservation of our natural resources
      4. _____Rational utilization of our environment
      5. _____Nature study and interpretation
      6. _____Man and his relationship to his cultural, natural, and physical environment
      7. _____Development of environmental awareness and ethics

c. Does your school(s) have an item in the 1973-74 budget for environmental education?

_____Yes _____No

d. Has anyone on your staff been assigned administrative responsibility for environmental education?

_____Yes _____No

If yes, name_____

e. Has your school(s) received funds from an outside source for environmental education?

_____Yes _____No

f. Has your school(s) conducted any in-service training programs for teachers in environmental education?

_____Yes _____No

g. Have members of your school(s) staff prepared curriculum materials in environmental education for use in your school(s)?

_____Yes _____No

h. Is your school(s) now using environmental education curriculum materials obtained from:

Yes	No	
_____	_____	R.I. Department of Education
_____	_____	R.I. Department of Natural Resources
_____	_____	Other agencies If yes, please specify_____
		_____
_____	_____	Other sources of <u>free</u> materials., If yes, please give source and type of materials:
		_____
		_____
_____	_____	Commercial publishers which sell environmental education materials which you have purchased.

4. Does your school(s) have access to any land or other sites for use in environmental education?

_____Yes _____No

If yes, please describe briefly_____

_____

5. Have you been approached by anyone (students, citizens, environmental organizations) requesting that attention be given by your school(s) to environmental education in the school curriculum?

_____Yes _____No

6. Does your school(s) have a student organization whose primary focus is upon environmental matters?

_____Yes _____No

7. Has anyone in your school(s) consulted with an outside resource person or agency for assistance with environmental education?

_____Yes _____No

If yes, please name_____

8. Have personnel from your staff attended training programs in environmental education held outside the school system?

_____Yes _____No

9. Does your school(s) have a curriculum committee for environmental education?

_____Yes _____No

10. Plans and needs: for each possibility listed, please write in the number of the statement from the following scale that best represents your reaction to each possibility for your school(s).

This possibility:

1. is not needed or planned
2. is needed but not planned
3. is planned but not needed
4. is both needed and planned

_____to develop a program for environmental education

_____to gain access to land for use as an outdoor learning center

_____to assemble a curriculum writing team to prepare environmental education curriculum

_____to provide in-service training opportunities in environmental education for our teachers

11. Listed below are some aids or activities which could possibly assist schools in environmental education. For each item, please write in the letter of the statement from the scale below which best indicates your reaction to each of the suggestions.

a. this would be extremely beneficial
b. this would be nice, but we can live without it
c. this holds little or no attraction for me

1____more and better curriculum materials directed to environmental education needs of R.I. schools.

2____area workshops in environmental education.

3____opportunity to participate in in-service training for your school staff.

4____financial aid for environmental education from outside the school system.

5____assistance with the identification and planning of resources for environmental study uses.

6____assistance with the evaluation of environmental education programs.

7____assistance with the identification and planning for use of outdoor education areas.

8____assistance in the development of an environmental education program.

In the following space, please write any comments or suggestions you have about environmental education in Rhode Island. Both positive and negative comments are solicited. What is good, and what is not? How might things be made better? Specific suggestions for improvements are particularly desired. Do not be inhibited by considerations of feasibility or cost -- let yourself go. Feel free to include comments which may seem pertinent to only your school(s) or to all of Rhode Island. Attach additional pages if necessary.

TABULATED RESULTS OF SCHOOL SURVEY FORM: 38% total response

Question #	Response
2.	4.2% yes 93.2% no
3.	80.0% yes 12.1% no
3a.	12.1% yes 74.2% no
	79.5% yes 2.6% no
3b.	1. 2.6%
	2. 1.1%
	3. 15.3%
	4. 2.6%
	5. 4.7%
	6. 27.9%
	7. 13.7%
	* 32.1% answered incorrectly.
3c.	23.2% yes 76.8% no
3d.	8.9% yes 91.1% no
3e.	6.8% yes 93.2% no
3f.	11.6% yes 88.4% no
3g.	43.2% yes 56.8% no
	* 35.3% answered no to 3c - 3g.
3h.	18.4% yes 81.6% no
	33.2% yes 66.8% no
	27.4% yes 72.6% no
	19.5% yes 80.5% no
	16.8% yes 83.2% no
	* 17.9% answered no to all categories.
4.	54.7% yes 45.3% no
	* most identified school sites and town owned land.
5.	30.0% yes 70.0% no
6.	11.1% yes 88.9% no
7.	38.9% yes 61.1% no
8.	25.8% yes 74.2% no
9.	7.9% yes 92.1% no

Question #	Response
10. a)	7.4%: 1 55.3%: 2
	0.0%: 3 25.8%: 4
b)	31.6%: 1 28.4%: 2
	2.1%: 3 23.7%: 4
c)	16.3%: 1 53.7%: 2
	0.0%: 3 18.4%: 4
d)	10.0%: 1 62.6%: 2
	0.0%: 3 16.8%: 4
	* 5.8% did not answer
	1.1% answered " already have "
	5.3% answered all " 1 "
	20.5% answered all " 2 "
	4.2% answered all " 4 "
11. 1)	72.6%: a 15.8%: b
	2.1%: c 9.5% n.a. +
2)	58.9%: a 23.7%: b
	5.8%: c 11.6% n.a. +
3)	61.6%: a 20.0%: b
	7.9%: c 10.5% n.a. +
4)	69.5%: a 15.8%: b
	4.2%: c 10.5% n.a. +
5)	54.2%: a 25.8%: b
	8.4%: c 11.6% n.a. +
6)	41.6%: a 28.9%: b
	16.3%: c 13.2% n.a. +
7)	50.5%: a 28.9%: b
	9.5%: c 11.1% n.a. +
8)	57.9%: a 23.7%: b
	8.4%: c 10.0% n.a. +
	* 24.2% answered all " a "
	1.1% answered all " b "
	.5% answered all " c "
	7.9% did not answer

+ n.a. - no answer

ADVISORY COMMITTEE ON ENVIRONMENTAL EDUCATION
FOR ECOLOGY ACTION FOR RHODE ISLAND

SURVEY OF ORGANIZATIONS CONCERNED WITH THE ENVIRONMENT

NAME OF ORGANIZATION _____
MAILING ADDRESS _____
CITY: _____ STATE _____ ZIP: _____
NAME OF PERSON RESPONDING _____
TITLE _____ PHONE _____

ORGANIZATION DESCRIPTION

1. What is the primary purpose of your organization? _____
_____

2. What is the scope of your organization?
_____1. local
_____2. state-wide
_____3. national
_____4. international

3. How many members does your organization have in Rhode Island? _____

4. How important is the preservation and improvement of environmental quality to your organization?
_____1. extremely important; it is our primary reason for existence
_____2. quite important; a significant portion of our efforts are directed at this goal, although we have other concerns as well
_____3. not very important; although we are concerned and are active in this area at times, most of our activity is directed elsewhere
_____4. of no importance; our organization does not concern itself with this issue

5. How active is your organization in attempting to influence public policy and the actions of other groups and individuals in environmental matters?
_____1. militantly active
_____2. quite active
_____3. active as we see the need
_____4. active only rarely
_____5. never active in this way

6. Did you have an active lobby for environmental concerns at the last session of the Rhode Island General Assembly? _____1. yes _____2. no

7. Have your activities on behalf of the environment included any of the following? (Check all that apply)
_____demonstrations
_____organized letter-writing campaigns
_____filing law suits
_____writing legislation
_____circulating petitions
_____environmental clean-up campaigns
_____educational efforts

_____recycling
_____conservation work
_____research
_____"letters-to-the-editor" campaigns
_____appearance before legislative bodies, including state, local and school boards
_____management activities

8. How many paid staff do you have?

Professional: full-time
part-time
Non-professional: full-time
part-time

ENVIRONMENTAL EDUCATION

"Environmental education is the educational process dealing with man's relationship with his natural and man-made surroundings, and includes the relation of population, pollution, resource allocation and depletion, conservation, transportation, technology, and urban and rural planning to the total human environment." (Environmental Education Act, Public Law 91-516, 1970)

9. Is "Environmental Education" a goal of your organization? _____1. yes _____2. no
If yes, are your environmental education efforts directed to:
_____1. mainly your own membership
_____2. an audience beyond your own membership
_____3. both

10. Is there a person(s) with specifically assigned responsibilities for environmental education in your organization? _____1. yes _____2. no
If yes, please name_____

11. Have you budgeted funds specifically for environmental education? ____1. yes ____2. no

12. Has your organization ever received funds (i.e. federal, state, private foundation, etc.) for environmental education? _____1. yes _____2. no

13. Are members of your organization available to make talks or presentations to outside groups? _____1. yes _____2. no

14. Does your organization maintain a speakers' bureau? ____1. yes ____2. no

15. Has your organization held any workshops or seminars, or conducted classes on environmental matters during the past 12-month period? _____1. yes _____2. no

16. Does your organization have available environmental materials? ____1. yes ____2. no
If yes, are they: _____materials that you have published
_____library materials
_____periodicals that you have published

17. Does your organization operate any outdoor environmental centers? ___1. yes ___2. no
If yes, please describe briefly_____

_____

18. If your organization operates an outdoor site which is used for environmental education, please indicate which of the following activities are conducted at the site. (Check all that apply)
_____1. class instruction programs
_____2. day camp program
_____3. nature study
_____4. recreation programs
_____5. regular camping programs
_____6. sport programs
_____7. student teacher training
_____8. vocational training
_____9. work experience
_____10. fishing and hunting
_____11. other

NEEDS

19. Listed below are some aids or activities which could possibly assist in environmental education. For each item please write in the letter of the statement in the scale below which best indicates your reaction to each of the suggestions.

a - this would be extremely beneficial
b - this would be nice, but we can live without it
c - this holds little or no attraction for me

1_____assistance with the identification and securing of outdoor learning areas

2_____training sessions for leaders of your organization

3_____assistance with the identification of possible target groups

4_____assistance with publishing educational materials, brochures, etc. at low cost

5_____technical assistance (e.g. writing grant proposals, legislative proposals)

6_____information about the activities of other environmental groups

7_____a permanent state-wide body to coordinate the environmental concerns of many organizations

8_____speakers for your meetings or community presentations

9_____program kits or packets

10_____informational brochures about environmental matters for dissemination to your members or in the community

11_____other; please specify_____

_____

20. Now, write in the number of the above item (1-11) which:

a. you would prefer to all the others _____

b. appeals least to you ..... _____

In the following space please write any comments or suggestions you have about environmental education in Rhode Island. Both positive and negative comments are solicited. What is good, and what is not? How might things be made better? Specific suggestions for improvements are particularly desired. Do not be inhibited by considerations of feasibility or cost -- let yourself go. Feel free to include comments which may seem pertinent to only your organization or to all of Rhode Island. Attach additional pages if necessary.

Please identify what you consider to be the most pressing Environmental Problems in Rhode Island.

TABULATED RESULTS OF ORGANIZATION SURVEY FORM: 53.8% response

Question #	Response
2.....	1) 21.4% 2) 50.0% 3) 7.1% 4) 21.4%
3.....	10 to 20,000
4.....	1) 50.0% 2) 42.9% 3) 7.1% 4) 0.0%
5.....	1) 21.4% 2) 50.0% 3) 14.3% 4) 7.1%
6.....	7.1% yes 92.9% no
7.....	1) 7.1% 2) 71.4% 3) 28.6% 4) 7.1% 5) 50.0% 6) 57.1% 7) 92.9% 8) 35.7% 9) 35.7% 10) 28.6% 11) 35.7% 12) 64.3% 13) 21.4%
8.....	64.3% none 1 to 20 range
9.....	92.9% yes 7.1% no 1) 21.4% 2) 0.0% 3) 71.4%
10.....	50.0% yes 42.9% no
11.....	28.6% yes 64.3% no
12.....	42.9% yes 57.1% no
13.....	78.6% yes 14.3% no
14.....	28.6% yes 71.4% no
15.....	50.0% yes 35.7% no
16.....	85.7% yes 7.1% no 1) 57.1% 2) 42.9% 3) 21.4%
17.....	28.6% yes 71.4% no

Question #	Response
18.....	1) 7.1% 2) 7.1% 3) 14.3% 4) 7.1% 5) 0.0% 6) 7.1% 7) 7.1% 8) 0.0% 9) 14.3% 10) 7.1% 11) 14.3%
19.....	1) 21.4%: a 42.9%: b 21.4%: c 14.3% n.a. + 2) 35.7%: a 28.6%: b 14.3%: c 21.4% n.a. + 3) 28.6%: a 14.3%: b 28.6%: c 28.5% n.a. + 4) 50.0%: a 7.1%: b 21.4%: c 21.5% n.a. + 5) 64.3%: a 0.0%: b 14.3%: c 21.4% n.a. + 6) 42.9%: a 0.0%: b 35.7%: c 21.4% n.a. + 7) 57.1%: a 14.3%: b 7.1%: c 21.5% n.a. + 8) 35.7%: a 28.6%: b 14.3%: c 21.4% n.a. + 9) 35.7%: a 21.4%: b 14.3%: c 28.6% n.a. + 10) 50.0%: a 14.3%: b 14.3%: c 21.4% n.a. +
	+ n.a. - no answer
20.....	a) 35.7%: #7 21.4%: #2 7.1%: #6 7.1%: #4 b) 28.6%: #1 7.1%: #2 7.1%: #3 7.1%: #4 7.1%: #9

IX. APPENDIX C: AVAILABLE RESOURCES

SCHOOL PROGRAMS AND ACTIVITIES:

* PROJECT EARTH
c/o Carlo Gamba
Cranston School System
Park Avenue
Cranston, R.I. 02910

PROJECT EARTH, a former Title III program initiated in 1968, is an environmental education program designed to allow urban elementary children the opportunity to learn the importance of proper utilization of our natural resources. The field work is conducted within Cranston and at the W. Alton Jones Campus of U.R.I.

* PROJECT MALO
c/o Ida Jackson
Warwick Veterans' Memorial High School
2401 West Shore Road
Warwick, R.I. 02886

This interdisciplinary approach to outdoor education was initiated as a Title III mini-grant last year and incorporated as a regular program for this year. Utilizing the community's resources as well as U.R.I.'s W. Alton Jones Campus, the program is intended to let students discover how their school works, in all subject matters, grows from and fits into man's relationship to his environment. The key to the project rests with the investigations and a "quest" period which allows the student to experience creative opportunities.

* PROJECT MARINE ENVIRONMENT
c/o Dave Whittaker
Tollgate High School
Warwick, R.I. 02888

A Title III project, involving both Warwick and Cranston, is designed to allow students from both communities to elect what is in effect a sophisticated oceanography/environmental education course. The student has an opportunity to investigate the marine environment from a land-based site or from the project's boat, which utilizes oceanographic equipment.

* PROJECT OCEAN STUDY
c/o August Botelho
Guiteras School
Bristol, R.I. 02809

PROJECT OCEAN STUDY, another former Title III mini-grant, provides the opportunity for junior high school students to investigate the marine environment, to explore salt marshes, to examine the interrelationship of various components of the environment and to sense the interdisciplinary aspects of environmental education.

The following schools and school systems are among those that have developed or are developing either Environmental Study Areas (ESA's) or outdoor environmental activities:

Cumberland School System — ESA
c/o Robert Condon, Superintendent
Mendon Road
Cumberland, R.I. 02864

Coventry School System — Outdoor Learning
c/o Thomas Marron
Coventry High School
Foster Drive
Coventry, R.I. 02816

Jamestown School — ESA
c/o J. Rogers Chase, Principal
Lawn Avenue
Jamestown, R.I. 02835

Middletown Middle School — ESA
c/o James MacGuire, Principal
Aquidneck Avenue
Middletown, R.I. 02840

Scituate Jr./Sr. High School — Outdoor Learning
c/o Robert Kuhn
Rockland Road
North Scituate, R.I. 02857

South Kingstown Junior High School — ESA
c/o Robert Smith, Principal
South Kingstown, R.I. 02879

Western Coventry School — ESA
c/o John Ruzanski, [illegible]ipal
Summit Rotary
Greene, R.I. 02827

UNIVERSITY AND COLLEGE PROGRAMS & ACTIVITIES:

* Environmental Education Committee
c/o Richard A. Green, Chairman
Rhode Island College
Providence, R.I. 02908

In response to the need for an interdisciplinary approach to problems in environmental education, a faculty group representing several departments formed the committee. The committee is concerned with the following functions:

An identification of resources available to the RIC Environmental Education Committee;

An investigation into the various E.E. models currently available;

A determination of faculty and student views on the goals and purposes of any proposed E.E. program at RIC; and

The development of a philosophy and a strategy for implementation of E.E. at RIC, including estimates of the impact on faculty and staff requirements, space and budget.

* Environmental Education Program
c/o William Croasdale
University of Rhode Island
Kingston, R.I. 02881

Under the leadership of the Education Department, URI has established an E.E. major, at both the undergraduate and graduate

Level, by utilizing unique combinations of existing courses. URI is presently developing several new courses in E. E., at the undergraduate level.

Information concerning many other E. E. activities within different colleges and departments, as well as the W. Alton Jones Campus' Youth Science Center, can be obtained from Dr. Croasdale.

GROUPS & AGENCIES WITH INTEREST IN ENVIRONMENTAL EDUCATION:

American Association of University Women
96 Waterman Street
Providence, R.I. 02906

* Aquidneck Island Ecology
Box 573
Newport, R.I. 02840

Audubon Society of Rhode Island
40 Bowen Street
Providence, R.I. 02903

\+ Division of Air Pollution Control
R.I. Department of Health
Davis Street
Providence, R.I. 02908

\+ Division of Water Supply and Pollution Control
R.I. Department of Health
Davis Street
Providence, R.I. 02908

Earthrise, Inc.
P. O. Box 120
Annex Station
Providence, R.I. 02901

* local organizations
\+ state agencies

* Ecology Action for Cumberland
c/o Marcia Miosky
Thomas Leighton Boulevard
Cumberland, R.I. 02864

Ecology Action for Rhode Island
286 Thayer Street
Providence, R.I. 02906

Environment Council of Rhode Island, Inc.
40 Bowen Street
Providence, R.I. 02903

Junior League of Providence, Inc.
21 Meeting Street
Providence, R.I. 02906

R.I. Association of Conservation Commissioners
Veterans Memorial Building
83 Park Street
Providence, R.I. 02903

\+ R.I. Department of Natural Resources
83 Park Street
Providence, R.I. 02908

R.I. Education Association
Hennessy Avenue
North Providence, R.I. 02911

R.I. Historical Farm Corporation
c/o Helen McCarron
Brown Avenue
Johnston, R.I. 02919

R.I. State Federation of Women's Clubs
c/o Mrs. Cosmo Mirando, President
25 Pamden Lane
Seekonk, Mass. 02771

* local organizations
\+ state agencies

R.I. Tuberculosis & Respiratory Disease Association
187 Westminster Mall
Providence, R.I. 02903

Rhode Islanders for Safe Power
Box 69
Wakefield, R.I. 02870

Save the Bay, Inc.
655 Main Street
East Greenwich, R.I. 02818

+ Statewide Planning Division
R.I. Department of Administration
265 Melrose Street
Providence, R.I. 02907

Stop I - 84, Inc.
Box 84
Hope, R.I. 02831

University of Rhode Island Seagrant Program
Marine Advisory Service
Narragansett Bay Campus
Narragansett, R.I. 02882

+ Water Resources Board
265 Melrose Street
Providence, R.I. 02907

+ state agencies

ENVIRONMENTAL EDUCATION TRAINING ACTIVITIES:

A training team evolved from " Narragansett Bay Heritage " (see E. E. Programs Funded for 1973 - 74) and utilizes process education in the environment, dealing with problem-solving and developing investigations, teaching/learning strategies and interpersonal relations/communications in their workshops. Their workshops, both content and method, are based upon those proven successful by the U.S. Forest Service in its Environmental Education activities. Further information can be obtained from the state E.E. contact person, Mr. H. Wells French, Consultant, Program Development, State Department of Education.

A leadership training team is evolving in Rhode Island as a result of Wilderness Society-sponsored workshops around the country. Emphasizing environmental and conservation activities, the team will utilize process education, problem-solving and issue-oriented strategies in developing state workshops, and in cooperating with teams in Massachusetts and Connecticut on a regional level. Further information can be obtained from Ecology Action for Rhode Island's contact person, Ms. Susan G. Gomberg.

ENVIRONMENTAL EDUCATION PROGRAMS FUNDED FOR 1973 - 74:

Girl Scouts of Rhode Island
333 Grotto Avenue
Providence, R.I. 02906

A program, postponed from 1972 - 73, designed to develop, test and staff a traveling mini-lab for environmental education. The mini-lab will contain testing equipment, a variety of materials and will be staffed by two teachers experienced in environmental education. The mini-lab will visit scout camps throughout Rhode Island during the summer and then extend its activities to the general public.

H. Wells French
State Department of Education
Hayes Street
Providence, R.I. 02908

" Narragansett Bay Heritage " is an interdisciplinary program designed to provide a seventh grade class in 13 communities with the process-oriented training necessary to use the equipment and materials provided. The equipment and materials, composed of water quality test kits, various maps and charts ranging from a 1648 map to the latest NOAA chart, resource materials, ERTS satellite imagery and a camera, will be used by these classes to establish monitoring stations on the bay or its estuaries, to supply that base-line data to the appropriate agencies, to examine the relationship of the bay to the state's development, to investigate land usage, and to become aware of personal and community involvement.

CURRICULAR RESOURCES:

The following listing may be used as sources of curricular materials, including films, pamphlets, brochures and bibliographies.

Audiovisual Department — 831-6600 ext. 531
Rhode Island College
600 Mount Pleasant Avenue
Providence, R.I. 02908

Audiovisual Department — 792-2148
University of Rhode Island
Kingston, R.I. 02881

Brown University
"Apex Metro" computer gaming
Providence, R.I. 02912

Curriculum Resource Center — 831-6600 ext. 663
Rhode Island College
600 Mount Pleasant Avenue
Providence, R.I. 02908

Ecology Action for Rhode Island — 274-9429
lending library for members
286 Thayer Street
Providence, R.I. 02906

"Environment Reporter" & other reference materials
R.I. Tuberculosis & Respiratory Disease Association
187 Westminster Mall — 421-6487
Providence, R.I. 02903

Environmental Field Guide for Teachers
Dr. William Croasdale, Ed.
Publication: June 1974

Environmental Protection Agency, Region I
J. F. Kennedy Building
Boston, Mass. 02203

Interface Providence 331-9488
Prepared by the " Interface Providence " group, the book contains the Plan as well as survey data on a state scale and for the city center. The " Interface Providence " group is also available for speaker presentations.

Massachusetts Audubon Society 617-259-9500
South Great Road
Lincoln, Mass. 01773

Mildred B. House
54 Clipper Way
Bristol, R.I. 02809
audiovisual course for grades 6 through adult.

R.I. Department of Education 277-2414
Film Library
Hayes Street
Providence, R.I. 02908
The Department serves as a link with the ERIC/SMEAC system, a computer system providing information about national resources. The Department is a member of the Northeast Environmental Education Development consortium and the National Alliance for Environmental Education. The Department is also a repository for U.S. Forest Service information and resources, and for the Environmental Education master plans prepared by other states. The " Narragansett Bay Heritage " project was developed within the Department.

Soil Conservation Service 828-1300
U.S. Department of Agriculture
222 Quaker Lane
West Warwick, R.I. 02893

Weyerhaeuser Company 253-6800
Bristol Ferry Road
Portsmouth, R.I. 02871

PHYSICAL RESOURCES:

The following listing includes natural areas suitable for field trips, industries which give tours and whose processes would be of interest to educators, and state and private agencies.

* Arcadia Management Area
Ten Rod Road
Exeter, R. I. 02822

Adjoining this large State - operated area are the Beach Pond State Park and the Dawley Memorial State Park.

* Audubon Society of Rhode Island: Wildlife Refuge Areas

Caratunk Wildlife Refuge off Route 152 Seekonk, Mass.	159 acres Farmland, Woodland
George B. Parker Woodland off Route 102 Coventry/ Foster, R. I.	450 acres Woodland
Davis Memorial Wildlife Refuge off Route 2 North Kingston, R. I.	96 acres Woodland, Freshwater wetland
Emilie Ruecker Wildlife Refuge off Route 77 Tiverton, R. I.	30 acres Freshwater wetland, Salt marsh, Woodland
Norman Bird Sanctuary Third Beach Road Middletown, R. I.	350 acres Salt marsh, Woodland, Freshwater wetland, Farmland
Kimball Wildlife Refuge off Route 1 Charlestown, R. I.	30 acres Woodland
Moonstone Waterfowl Refuge Moonstone Beach Road South Kingstown, R. I. (Letter of permission is required to enter property: write Audubon Society of Rhode Island.)	115 acres Ocean front, Salt marsh, Freshwater wetland, Farmland

* Burlingame State Park and Kimball Bird Sanctuary
Route 1
Charlestown, R. I.

* Cape Cod National Park
White Cedar Swamp
Wellfleet, Mass.

* Casey Farm
Route 1 A
Saunderstown, R. I.

The Casey Farm is a working historical farm operated by the Society for the Preservation of New England Antiquities, 141 Cambridge Street, Boston, Mass. (617-227-3956)Tours are conducted from June to October: Tuesday, Thursday and Saturday from 1 - 5 P. M. $ 1 admission. Special arrangements can be made through the Society.

* Chopmist Fire Headquarters 647-3367
Route 101 Box 545
North Scituate, R. I. 02857

Tours by appointment: contact Mr. Peter Chamberlain, Information and Public Relations Specialist. Operated by the R. I. Department of Natural Resources, Forest Environment Division.

* Ciba-Geigy Corporation 941-3000
180 Mill Street
Cranston, R. I.

Tours by appointment: contact Mr. David Swanson, Industrial Relations Department. For college and university students only.

* Colt State Park Seashore and woodlands
Colt Drive
Bristol, R. I.

* Dame Farm
Brown Avenue
Johnston, R. I.

Part of the State-owned Snake Den area. See the R. I. Historical Farm Corporation under " Groups and Agencies " to arrange tours.

* Diamond Hill State Park
Diamond Hill Road
Cumberland, R.I.

* Fram Corporation: Manufacturing Facility 438-2000
105 Pawtucket Avenue
East Providence, R.I.

Tours by appointment: contact Mr. Gil Swick, Personnel Office.
Tours limited to Junior High School students and older, limit of 10 per tour.

Fram Corporation: Industrial Waste Treatment Systems
750 School Street 722-5000
Pawtucket, R.I.

Tours by appointment: contact Mr. Anthony Perrotti, Lab Manager.
Tours limited to High School students and older.

* George Washington Management Area
off Route 44
Burrillville, R.I.

* Goddard State Park
Ives Road
Warwick, R.I.

* Great Swamp Management Area and Worden Pond
off Route 2
South Kingstown, R.I.

* Lincoln Woods State Park
Great Road
Lincoln, R.I.

* Marsh Meadows Management Area
Route 138
Jamestown, R.I.

* Mystic Aquarium 203-536-9631
Greenmanville Avenue
Mystic, Conn. 06355

* Narragansett Electric Company 781-0100
280 Melrose Street
Providence, R.I.

Tours by appointment: contact Mr. Louis D'Angelis or Mr. Frank Ward. Tours limited to 7th grade students and older.

* Nat[illegible]al Fish Hatchery and Trail 617-695-5002
U.S. Department of the Interior
Sport Fisheries and Wildlife Bureau
660 Bungay Road
North Attleboro, Mass.

Call the Sport Fisheries and Wildlife Bureau for appointment.

* New England Aquarium 617-742-8830
Central Wharf (past Logan Airport)
Boston, Mass.

* Raytheon Company 847-8000
Environmental Systems Center
West Main Road
Portsmouth, R.I.

Tours by appointment: contact Mr. C.F. Brown. Tours for advanced students only.

* R.I. Department of Health 277-2534
Davis Street
Providence, R.I.

Tours of environmental control labs by appointment: contact Mrs. Ruth Waite, Health Education Office. Tours for High School students.

* R.I. Department of Natural Resources
Lafayette Fish Hatchery 294-4662
off Route 2
North Kingstown, R.I.

Tours by appointment: contact Mr. Harold McWilliams.

* R. I. Department of Natural Resources
Perryville Fish Hatchery 783-5358
off Post Road
Perryville, R. I. (South Kingstown)

Tours by appointment: contact Mr. Richard Peirce.

* Roger Williams Park and Museum 941-3215
950 Elmwood Avenue
Providence, R. I.

* Sapowet Marsh Wildlife Preserve
off Route 77
Tiverton, R. I.

* Sewage treatment plants: contact municipal officials for tours.

* Solid Waste disposal facilities: contact municipal officials for tours.

* Star City Glass Company 397-3371
Flat River Road
Coventry, R. I.

Tours by appointment: contact Mr. Albert Winograd. Tours for High School students and older.

* W. Alton Jones Youth Science Center 397-3302
University of Rhode Island
Route 102 at Stubble Brook Road
West Greenwich, R. I.

Extensive environmental study areas with facilities for overnight accommodations.

* Water treatment/purification plants: contact municipal officials for tours.

IX. APPENDIX D: CREDITS

STEERING COMMITTEE:

The following individuals acted as the Steering Committee during the development of the Proposed Plan for Environmental Education in Rhode Island:

Richard A. Green: President, Ecology Action for Rhode Island and Chairman, Advisory Committee on Environmental Education.

William E. Swigart III: Staff Associate, the Bureau of Social and Educational Services, Rhode Island College.

H. Wells French: Consultant, Program Development, Rhode Island Department of Education.

Robert G. Day: Manager, Commercial Operations of the Submarine Signal Division, Raytheon Company.

Jean Waage: Librarian, Ecology Action for Rhode Island.

Ms. Susan G. Gomberg acted as the Coordinator for the development of the Proposed Plan for Environmental Education in Rhode Island, with the responsibilities of advising the Steering Committee, coordinating the efforts of the Advisory Committee and serving as the principal author.

ADVISORY COMMITTEE ON ENVIRONMENTAL EDUCATION:

The following individuals were invited to serve as members of the Advisory Committee for the development of the Proposed Plan for Environmental Education in Rhode Island:

Dr. Richard A. Green	Chairman of Advisory Committee, and President of Ecology Action for Rhode Island
Mr. George Bennett	Blackstone Valley Chamber of Commerce
Mr. Peter Caliss	Chief of Planning, Water Resources Board
Mr. J. Rogers Chase	Principal, Jamestown School
Miss Loraine Cocozza	student, Cranston East High School
Mr. Walter Cole	teacher, Dunn's Corner School
Dr. William Croasdale	professor, University of Rhode Island
Mr. Michael Crowley	teacher, Middletown High School
Mr. Robert G. Day	Raytheon Company
Mrs. Lynne Edmonds	Providence Adult Education
Mr. Gordon Feiner	student, University of Rhode Island
Mr. James Fester	Division of Water Supply and Pollution Control, R.I. Department of Health
Mr. H. Wells French	R.I. Department of Education
Mr. Stuart Hale	Coastal Resources Center
Mr. Robert Harpell	Save the Bay
Dr. Alfred Hawkes	Executive Director, Audubon Society of R.I.
Mrs. James Holt	R.I. Federation of Garden Clubs
Mrs. Mildred B. House	teacher, Roger Williams College
Mrs. Ida Jackson	teacher, Warwick Veterans Memorial High School

Dr. Richard N. Keogh	professor, Rhode Island College
Representative Edward P. Manning	Chairman, Joint Committee on the Environment, R.I. General Assembly
Mrs. Marcia Miosky	R.I. League of Women Voters
Mr. Brad Monahon	R.I. Department of Natural Resources
Mrs. Susan Morrison	Division of Statewide Planning, R.I. Department of Administration
Mr. John Paquet	Vice Principal, Lockwood Junior High School
Mr. Richard Pointer	People Acting through Community Effort (PACE)
Mr. John R.zanski	member, School Committee
Ms. Susan J. Schlamb	student, Brown University
Mr. Thayer Shafer	Marine Advisory Service, University of R.I.
Mrs. Peggy Sharpe	Citizens' Steering Committee for Solid Waste Management
Mrs. Barbara Sjoberg	R.I. Federation of Women's Clubs
Mr. William E. Swigart III	Staff Associate, Bureau of Social and Educational Services, Rhode Island College
Mr. Merlin Szosz	professor, Rhode Island School of Design
Ms. Gladys Thomas	Consultant, R.I. Department of Education
Dr. Mary T. Thorp	R.I. Tuberculosis and Respiratory Disease Association
Mr. James Verde	professor, Rhode Island Junior College
Mrs. Jean Waage	Librarian, Ecology Action for Rhode Island
Mr. John Waage	professor, Brown University
Mrs. Kathy Waterman	Environment Council of R.I.
Ms. Carol Young	Providence Journal Company

EVALUATORS OF STUDY DRAFTS:

In addition to the members of the Advisory Committee, the individuals listed below were asked to evaluate draft copies of the Proposed Plan for Environmental Education in Rhode Island.

Mrs. Dora Borenstein	Ecology Action for Rhode Island
Mr. Gus Botelho	teacher, Guiteras School
Mr. Hugh Campbell	Independent Schools Association of R. I.
Ms. Linda Carson	Junior League of Providence
Dr. Walter Crocker	Rhode Island College
Mrs. John Cunningham	R. I. Federation of Garden Clubs
Mr. Austin Daley	Chief, Air Pollution Control Division, R. I. Department of Health
Mr. Dominic DiLuglio	R. I. Association of School Superintendents
Mrs. Ralph D'Olivo	R. I. Federation of Women's Clubs
Mr. Wilfred Gates	Environment Council of R. I.
Mrs. Barrett Hazeltine	League of Women Voters of R. I.
Mr. Paul Ladd	Rhode Islanders for Safe Power
Ms. Gaytha Langlois	Professor, Bryant College
Mrs. Helen McCarron	R. I. Historical Farm Committee
Mrs. Beth Milham	Island Ecology
Mr. John Moran	R. I. Association of Conservation Commissioners
Mr. Dana M. Newbrook	Citizens' Steering Committee for Solid Waste Management
Ms. Mary Orzechowski	teacher, North Cumberland Middle School
Dr. Victor Profughi	Rhode Island College

Mr. David Rosser	Blackstone Valley Watershed Association
Mr. John Scanlon	Save the Bay
Mrs. Claudine Schneider	Concerned Citizens of R. I.
Ms. Donna Shipsky	Ecology Action for Rhode Island
Mrs. Marion Slater	Junior League
Mrs. Ruth Tetreault	CANAL, Inc.
Mr. J. Warren Thomas	Gorham Division of Textron, Inc.
Dr. Harold R. Ward	Professor of Chemistry, Brown University and Vice President Ecology Action for R. I.

The following individuals are members of the Environmental Education Committee of Rhode Island College, and were also asked to evaluate draft copies of the Proposed Plan:

Mr. Walter Blanchard

Mr. Kenneth Borst

Ms. Gertrude Croke

Dr. Stanford Demars

Dr. John Finger

Dr. Peter Harman

Dr. Richard N. Keogh

Mr. Paul Lareau

Dr. Renato Leonelli

Mr. Ira J. Lough

Dr. Bruce Mielke

Mr. Laurence Sasso

Mr. Barry Schiller

Dr. Ellsworth Starring

Mr. Brian Taft

Dr. Lon Weber

Organizations which were asked to evaluate draft copies of the Proposed Plan include:

American Association of University Women

R. I. Congress of Parents and Teachers

R. I. Federation of Teachers

R. I. Education Association

R. I. Association of School Committees

IX. APPENDIX E: PROPOSED BUDGET OVER A FOUR YEAR PERIOD

	Year 2*	Year 3	Year 4
Personnel			
Coordinator	17,905.00	18,875.00	19,900.00
Environmental Education Specialist/ Consultant Research and Program Development	15,555.00	16,150.00	16,765.00
Secretary	6,000.00	6,600.00	7,260.00
Fringe Benefits			
15% Professional	5,019.00	5,253.75	5,499.75
10% Clerical	600.00	660.00	726.00
TOTAL PERSONNEL	45,079.00	47,538.75	50,150.75
Consultants	4,000.00	2,000.00	1,000.00
Travel	2,500.00	1,750.00	1,750.00
Supplies (Office)	7,500.00	6,000.00	4,000.00
Publication Costs (Office)	3,500.00	3,000.00	2,500.00
Clearinghouse Costs (Publications, Materials)	15,000.00	9,000.00	9,000.00
Instruction, Program Development	10,000.00	15,000.00	20,000.00
TOTAL COSTS	87,579.00	84,288.75	88,400.75

* Since the first year activities involve establishment of the mechanism of the program, no budgetary considerations have been given.